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EXAMINER	
DIVECHA, KAMAL B	
ART UNIT	PAPER NUMBER
2151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	.09/971,857	SYMONS ET AL.	
	Examiner	Art Unit	
	KAMAL B. DIVECHA	2151	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Response to Arguments**

Claims 1-27 are pending in this application.

**Claim Rejections - 35 USC § 112**

The 35 USC 112, first and second paragraph rejection presented in the prior office action has been withdrawn.

**Request for Continued Examination (RCE)**

Applicant's arguments filed in a request for continued examination with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.

**DETAILED ACTION**

Claims 1-27 are presented for re-examination.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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1. Claims 1-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arkko et al. (hereinafter Arkko, U. S. Patent No. 6,535,517 B1) in view of Fitzgerald et al. (hereinafter Fitzgerald, U. S. Patent No. 5,581,764).

As per claim 1, Arkko explicitly discloses a method for managing a network infrastructure comprising: storing an expected network infrastructure description (fig. 5A item #505, col. 9 L6-7, col. 2 L35-36, L61-65 and fig. 5A item #505); comparing said expected network infrastructure description with a current network infrastructure description (col. 9 L15-18, col. 2 L35-40, L62-65), wherein said comparing detects any new devices in the network infrastructure and any devices or device interfaces that have been removed or have failed in the network (col. 9 L1-56: please note the phrase “installation changes”, it means that it detects if there are any devices added removed; col. 12 L9-32); and outputting a result of said comparing, wherein differences between said expected network infrastructure description and said current network infrastructure disruption are displayed (col. 9 L23-45, col. 14 L14-16 and col. 13 L1-23).

However, Arkko does not disclose the process of detecting any changed configurations of devices in the network.

Fitzgerald, from the same field of endeavor, discloses the process of storing an expected configuration of a device, comparing the expected configuration of the device with current configuration of device, detects any changed configuration of devices in the network and outputs a list or a report (col. 4 L60 to col. 5 L40, col. 7 L51 to col. 8 L15 and col. 9 L60 to col. 10 L5).

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Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Fitzgerald with Arkko, in order to detect any changed configuration of the devices in the network.

One of ordinary skilled in the art would have been motivated because it would have determined or identified any updates necessary to configure a device and managed the device accordingly (Fitzgerald, col. 5 L36-57).

As per claim 2, Arkko discloses a system wherein the network infrastructure is a switched network infrastructure (fig. 1-4 and col. 3 L50-67).

As per claim 3, Arkko discloses the process of implementing a change of said network infrastructure with a configuration agent and storing said change in said expected network infrastructure description (col. 9 L46-57 and col. 14 L32-34).

As per claim 4, Arkko discloses the process of collecting said current network infrastructure description (col. 10 L21 to col. 12 L24).

As per claim 5, Arkko discloses the process wherein said collecting current network infrastructure description further comprises using agents to collect said current network infrastructure description (col. 10 L21 to col. 12 L24).

As per claim 8, Arkko does not explicitly disclose the process of outputting a list of devices from said expected network infrastructure description which are missing from said current network infrastructure description, outputting a list of devices from said current network infrastructure description having a different configuration from the configuration of said devices in said expected network infrastructure description and outputting a list of devices from said

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current network infrastructure description which are not described in said expected network infrastructure description.

Fitzgerald, from the same field of endeavor, discloses the method of comparing a Should have list (SH, read as expected network infrastructure description) and Already have list (AH, read as current network infrastructure description) of network resources (fig. 24 block #98) and based on comparison, generating (read as outputting) a Need List that identifies items that are present in the AH list but absent from SH list (col. 5 L10-30). A Need list also identifies resource deletions, additions, and updates necessary to configure a desktop (read as list which identifies the missing component, not described component and component with different configuration in either expected or current network infrastructure description, fig. 24 item #98 and #100 and fig. 25 item #112, #114, #116 and #118; fig. 3 considering an update function for a device with different configuration, delete function for a deleting devices or resources that are missing from current network infrastructure description and adding function for adding resources that are not described in expected network infrastructure description or Should have list; col. 5 L10-57).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in view of Fitzgerald, in order to output a list of devices that are missing from current network infrastructure description, devices or resources having a different configuration from expected configuration and devices that are not described in expected network infrastructure description.

One of ordinary skilled in the art would have been motivated because doing would have automated and enabled the management of changes in a distributed computing environment

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(Fitzgerald, col. 8 L15-21). It would have also articulated and managed the specific system configuration requirements and would have further permitted dynamic reconfiguration of a system based upon policy changes and system technology configuration changes (Fitzgerald, col. 7 L30-35). Also, it would have enabled resource deletions, additions, and updates necessary to configure computer systems in accordance with administrator requirements (Fitzgerald, col. 5 L35-40).

As per claim 9, Arkko discloses the process of informing the communications operator with an alarm at a monitoring terminal about a deviation (col. 9 L1-45), however Arkko does not disclose the process of outputting a message stating that expected network infrastructure description and current network infrastructure description are identical.

But it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in order to output a message stating that the expected and current infrastructure description are identical, since Arkko teaches the process of outputting and informing the operator about the deviation.

One of ordinary skilled in the art would have been motivated because it would have informed and/or notified the network administrator about the status of the network infrastructure and/or changes occurred in the network infrastructure if there are any (Arkko, col. 9 L42-45).

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2. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being obvious over Arkko et al. (hereinafter Arkko, U. S. Patent No. 6,535,517 B1) in view of Fitzgerald et al. (hereinafter Fitzgerald, U. S. Patent No. 5,581,764), and further in view of Benfield et al. (hereinafter Benfield, Pub. No.: US 2003/0009552 A1).

As per claim 6, Arkko in view of Fitzgerald does not explicitly disclose the process of converting said expected network infrastructure description into an expected network infrastructure graphical description and converting said current network infrastructure description into a current network infrastructure graphical description.

Benfield, from the same field of endeavor discloses the process of presenting (i.e. converting or formatting) the topology information in a database as a topology map (i.e. graphical representation, fig. 12A-12F and pg. 16 [0214], [0216], pg. 1 [0011], pg. 17 [0217-0220]).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in view of Fitzgerald and further in view of Benfield, in order to convert the expected and current network infrastructure description to the expected and current network infrastructure graphical description, since Miyake teaches the process of presenting the database information into a topology map.

One of ordinary skilled in the art would have been motivated because it would have enabled a user and/or administrator to easily discern the topological changes (Benfield, pg. 17 [0220], [0222]).



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As per claim 7, Arkko in view of Fitzgerald does not explicitly disclose the process of comparing said expected network infrastructure graphical description with said current network infrastructure graphical description.

Benfield, from the same field of endeavor, discloses the process of comparing topology maps of two different states (read as comparing two graphical representation of network infrastructure, pg. 17 block #218-223).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in view of Miyake, and further in view of Benfield, by incorporating the teaching of Benfield as stated above, in order to compare expected network infrastructure graphical description with current network infrastructure graphical description.

One of ordinary skilled in the art would have been motivated because any changes in network topology would have been displayed using graphical changes such that user would have easily discerned the topology changes and/or an administrative user would have been able to view one or more changes in topology over a period of time (Benfield, pg. 17 block #220, 222).

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3. Claims 10-16, 18, 19-25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arkko et al. (hereinafter Arkko, U. S. Patent No. 6,535,517 B1) in view Aoyagi et al., (hereinafter Aoyagi, Pub. No.: 2002/0032761 A1), and further in view of Ootani et al., (hereinafter Ootani, Pub. No.: 2002/0135610 A1).

As per claim 19, Arkko discloses a computer-usable medium having computer-readable code embodied therein for causing a computer system to perform a method for managing a network infrastructure comprising: storing an expected network infrastructure description, said description comprising a device name for each device of said expected network infrastructure (fig. 5A item #505, col. 9 L6-7, col. 2 L35-36, L61-65 and fig. 5A item #505; col. 15 L3-15); comparing said expected network infrastructure description with a current network infrastructure description (col. 9 L15-18, col. 2 L35-40, L62-65), wherein said comparing detects any new devices in the network infrastructure and any devices or device interfaces that have been removed or have failed in the network (col. 9 L1-56: please note the phrase “installation changes”, it means that it detects if there are any devices added removed; col. 12 L9-32); and outputting a result of said comparing, wherein differences between said expected network infrastructure description and said current network infrastructure disruption are displayed (col. 9 L23-45, col. 14 L14-16 and col. 13 L1-23).

However, Arkko does not disclose the process wherein the network infrastructure description is described as an XML data type description comprising at least one configuration attribute and the process of detecting any changed configuration of the devices in the network.

Aoyagi, from the same field of endeavor discloses the process of storing the network infrastructure description comprising a device name and at least one configuration attribute (fig.

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9 item #901, item #902) and the process of detecting the configuration change of the network devices by comparing the previously collected data with the currently collected data for the differences (pg. 35 claim 13).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to Arkko in view of Aoyagi, in order to include at least one configuration attribute in the description of the network device and the process of detecting any configuration change of the devices in the network.

One of ordinary skilled in the art would have been motivated because it would have detected any variation in configuration information such as activation, suspension, modification of connection, modification of IP address and the like of the active network devices (Aoyagi, pg. 35 claim 13).

However Arkko in view of Aoyagi does not disclose the process wherein the network infrastructure description is described and/or stored as an XML data type description.

Ootani, from the same field of endeavor explicitly discloses the process of storing the network topology or description as an XML file (fig. 4-14, pg. 4 [0062-0065], pg. 5 [0080-0086], pg. 6 [0089-0092], [0095]).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in view of Aoyagi, and further in view of Ootani, in order to store and compare the expected network infrastructure XML data type description and current network infrastructure XML data type description, since Ootani teaches the process of storing the network topology as XML data type description.

One of ordinary skilled in the art would have been motivated for easy visualization of the network topology (Ootani, pg. 4 [0062, 0063, 0065]).

As per claim 20, Arkko discloses a system wherein the network infrastructure is a switched network infrastructure (fig. 1-4 and col. 3 L50-67).

As per claim 21, Arkko discloses the process of implementing a change of said network infrastructure with a configuration agent and storing said change in said expected network infrastructure description (col. 9 L46-57 and col. 14 L32-34).

As per claim 22, Arkko discloses the process of collecting said current network infrastructure description (col. 10 L21 to col. 12 L24).

As per claim 23, Arkko discloses the process wherein said collecting current network infrastructure description further comprises using agents to collect said current network infrastructure description (col. 10 L21 to col. 12 L24).

As per claim 24, Arkko does not disclose the process of converting expected network infrastructure description into an expected network infrastructure graphical description and converting said current network infrastructure de4scriotion into a current infrastructure graphical description.

Ootani, from the same field of endeavor explicitly discloses the process of storing the network topology or description as an XML file and converting the XML file into a graphical display (fig. 4-14, pg. 4 [0062-0065], pg. 5 [0080-0086], pg. 6 [0089-0092], [0095]).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in view of Aoyagi, and further in view of Ootani, in order to convert the expected and current network infrastructure description into expected and

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current graphical network infrastructure, since Ootani teaches the process converting the network topology XML file into graphical presentation of network topology.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 19.

As per claim 25, Arkko discloses the process of comparing expected network infrastructure description with said current network infrastructure description as in claim 19, however Arkko does not disclose the process of comparing the expected network infrastructure graphical description with said current network infrastructure graphical description.

Ootani, from the same field of endeavor explicitly discloses the process of storing the network topology or description as an XML file and converting the XML file into a graphical display (fig. 4-14, pg. 4 [0062-0065], pg. 5 [0080-0086], pg. 6 [0089-0092], [0095]).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in view of Aoyagi and further in view of Ootani, in order to compare the expected and current network infrastructure graphical description, since Ootani teaches the process of presenting the network description in a graphical form.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 19.

As per claim 27, Arkko discloses the process of informing the communications operator with an alarm at a monitoring terminal about a deviation (col. 9 L1-45), however Arkko does not disclose the process of outputting a message stating that expected network infrastructure description and current network infrastructure description are identical.

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But it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko in order to output a message stating that the expected and current infrastructure description are identical, since Arkko teaches the process of outputting and informing the operator about the deviation.

One of ordinary skilled in the art would have been motivated because it would have informed and/or notified the network administrator about the status of the network infrastructure and/or changes occurred in the network infrastructure if there are any (Arkko, col. 9 L42-45).

As per claims 10-16 and 18, they do not teach or further define over the limitations in claims 19-25 and 27. Therefore claims 10-16 and 18 are rejected for the same reasons as set forth in claims 19-25 and 27.

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4. Claims 17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arkko et al. (hereinafter Arkko, U. S. Patent No. 6,535,517 B1) in view Aoyagi et al., (hereinafter Aoyagi, Pub. No.: 2002/0032761 A1), in view of Ootani et al., (hereinafter Ootani, Pub. No.: 2002/0135610 A1), and further in view of Fitzgerald et al. (hereinafter Fitzgerald, U. S. Patent No. 5,581,764).

As per claim 26, Arkko in view of Aoyagi and further in view of Ootani does not disclose the process of outputting a list of devices from said expected network infrastructure description which are missing from said current network infrastructure description, outputting a list of devices from said current network infrastructure description having a different configuration from the configuration of said devices in said expected network infrastructure description and outputting a list of devices from said current network infrastructure description which are not described in said expected network infrastructure description.

Fitzgerald, from the same field of endeavor, discloses the method of comparing a Should have list (SH, read as expected network infrastructure description) and Already have list (AH, read as current network infrastructure description) of network resources (fig. 24 block #98) and based on comparison, generating (read as outputting) a Need List that identifies items that are present in the AH list but absent from SH list (col. 5 L10-30). A Need list also identifies resource deletions, additions, and updates necessary to configure a desktop (read as list which identifies the missing component, not described component and component with different configuration in either expected or current network infrastructure description, fig. 24 item #98 and #100 and fig. 25 item #112, #114, #116 and #118; fig. 3 considering an update function for a device with different configuration, delete function for a deleting devices or resources that are

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missing from current network infrastructure description and adding function for adding resources that are not described in expected network infrastructure description or Should have list; col. 5 L10-57).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Arkko, Aoyagi and Ootani in view of Fitzgerald, in order to output a list of devices that are missing from current network infrastructure description, devices or resources having a different configuration from expected configuration and devices that are not described in expected network infrastructure description.

One of ordinary skilled in the art would have been motivated because doing would have automated and enabled the management of changes in a distributed computing environment (Fitzgerald, col. 8 L15-21). It would have also articulated and managed the specific system configuration requirements and would have further permitted dynamic reconfiguration of a system based upon policy changes and system technology configuration changes (Fitzgerald, col. 7 L30-35). Also, it would have enabled resource deletions, additions, and updates necessary to configure computer systems in accordance with administrator requirements (Fitzgerald, col. 5 L35-40).

As per claim 17, it does not teach or further define over the limitations in claim 26. Therefore claim 17 is rejected for the same reasons as set forth in claim 26.



**Additional References**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Huang et al., U. S. Patent No. 6,735,548 B1: Automated Network Availability Analysis.
- a. Tezuka et al., U. S. Patent No. 6,047,320: Network Managing Method and System.
- b. Tachibana et al., Pub. No.: US 2001/0029529 A1: Remote Maintenance Apparatus.
- c. Binding et al., Pub. No.: US 2002/0100027 A1: Method of Externalizing Relational and ASN.1 Formatted data into XML format.
- d. Zintel et al., U. S. Patent No.: 6,910,068 B2: XML-based Template Language for Devices and Services.

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**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kamal Divecha  
Art Unit 2151  
April 18, 2006.



**ZARNI MAUNG**  
**SUPERVISORY PATENT EXAMINER**